CLAIMS

1. A method of encoding of data received from a source (100, 105, 140), wherein the encoding is of a type which imposes a structure (200, 210, 220, 230) on the data, which structure is not defined in the data as received, the method comprising the steps of:-

- analysing (300) the received data to detect artefacts contained within the data indicating that the data has been through a previous encoding and decoding process (105, 110, 140) of the same type;
- extracting by analysis of said artefacts information as to the structure imposed on the data by said previous encoding process;
- encoding the received data by reference to the extracted structure information.

2. The method as claimed in claim 1, wherein the received data represents an image (IV), such as an image received through an analogue transmission (120) or storage (160) process, the structure (200, 210, 220, 230) imposed by the encoding process including a spatial structure in which pixels of the image are processed in blocks, the encoding being performed so as to align block boundaries of the encoding process substantially with block boundary artefacts present in the received image data as a consequence of the previous encoding process.

3. The method as claimed in claims 1 or 2, wherein the encoding process is of a type which imposes a spatial structure in which the blocks of pixels are grouped into macroblocks, the encoding being performed so as to align macroblock boundaries of the encoding process substantially with macroblock boundary artefacts present in the received image data as a consequence of the previous encoding process.

4. The method as claimed in any preceding claim, wherein the received image data is a motion picture sequence of images and the structure information used for each successive image is derived entirely by analysis (300) of at least one of the previous and present images.

5. The method as claimed in any preceding claim, wherein the received image data is over-sampled when initially digitised (600) from an analogue signal.

6. The method as claimed in any preceding claim, wherein where the received image data represents a motion picture sequence, the structure imposed by the encoding process is a temporal structure (GOP structure) in which different images of the sequence are processed differently, the encoding being performed so as to apply substantially the same GOP structure to the sequence as was applied in the previous encoding process.

7. The method as claimed in any of claims 1 to 6, wherein the encoding is performed so as to apply a different GOP structure to, but temporally associated with, that used in the previous ending process.

8. The method as claimed in claims 6 or 7, wherein the analysis of artefacts distinguishes between intra- and inter-coded pictures.

9. The method as claimed in any of claims 6, 7 or 8, wherein the analysis of GOP structure is performed by analysing several images stored in full in a memory (610, 620).

10. The method as claimed in any of claims 6, 7 or 8, wherein the analysis is performed by preserving only parameters of past images and analysing the present image with respect to those parameters.

11. The method as claimed in any preceding claim, wherein the received data comprises audio data, the structure imposed by the encoding process including a temporal structure in which samples of an audio signal are processed in blocks, each representing a short time interval, the encoding being performed so as to maximise alignment of block boundaries of the encoding process substantially with block boundary artefacts present in the received audio data as a consequence of the previous encoding process.

12. The method as claimed in claim 11, wherein the existence and position of artefacts within audio data are detected on an on-going basis and the encoding step is adapted on an on-going basis to maximise alignment of the block boundaries over time.

13. The method as claimed in claims 11 or 12, wherein the analysis step includes a phase-locked loop (PLL) process which is attuned to detect and then lock on to block boundary artefacts in a continuous data stream.

14. The method as claimed in claim 13, wherein the encoding step includes a second phase-locked loop or similar process for maximising alignment of the block boundaries of the encoding process with the detected block boundary artefacts gradually over time, to avoid sudden discontinuities in the block structure imposed by the encoding step.

15. An apparatus for encoding data adapted to implement the method according to the invention as set forth above.

16. An apparatus as claimed in claim 15 comprising a digital video recorder or digital audio recorder.

17. A method of pre-processing data received from a source (100, 105, 140), for subsequent application to an encoding process which imposes a structure (200, 210, 220, 230) on the data, which structure is not defined in the data as received, the method comprising the steps of:-

- analysing (300) the received data to detect artefacts contained within the data indicating that the data has been through a previous encoding process of the same type;
- extracting by analysis of said artefacts information as to the structure imposed on the data by said previous encoding process;
- processing (630) the received data by reference to the extracted structure information so as to maximise alignment between the structure imposed by the previous encoding process and a predetermined structure.

18. A computer program product comprising instructions for causing a programmable computer to implement the specific method steps and/or apparatus features of the invention in any of its aspects as set forth herein.